REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-9 are pending in this application. By this Response, Applicants have amended claims 1 and 2 and added new claim 9. Claims 1, 5, and 8 are independent.

35 U.S.C. § 112 Rejection

Claim 2 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Office Action states that it is unclear whether the correction step referred to at the end of the claim refers to the image signal value correction or the edge intensity value correction. The Office Action states that for examination purposes, the edge intensity value correction meaning has been applied. Applicants agree with this interpretation by the Examiner and have amended claim 2 to more clearly state that the correction step in question is the edge intensity value correction step. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

35 U.S.C. § 102 Rejection

Claims 1, 3, and 4 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 7,142,239 to Cho (hereafter "Cho"). Insofar as it pertains to the presently pending claims, this rejection is respectfully traversed.

Cho teaches an apparatus and a method "for processing output data from an image sensor … using a plurality of directional coefficients." (Col. 2, lines 47-56). Cho specifically teaches performing color interpolation on a pixel by using "at least three directional coefficient values for determining the intensity of color components" where the directional coefficients indicate horizontal, vertical and diagonal edge components. (Col. 6, lines 43-67). As shown in Figure 5, Cho performs low-pass filtering as part of the adaptive color interpolation, combining the high-pass and low-pass filter values of data from the delay module (25) and the directional coefficient

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selector (26) to produce RGB color values for each pixel. This adaptive color interpolation step is the image signal value correction aspect in Cho.

Independent claim 1 requires that image signal value correction be performed "either before or after a color interpolation." Because Cho's image signal value correction IS the color interpolation, Cho cannot satisfy the limitations of independent claim 1.

With respect to dependent claims 3 and 4, Applicants respectfully submit that the deficiencies of Cho with respect to independent claim 1 are incorporated into these claims by virtue of their dependency on independent claim 1. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

35 U.S.C. § 103 Rejection – Cho and MacKinnon

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Cho in view of U.S. Patent 6,148,115 to MacKinnon et al. (hereafter "MacKinnon"). This rejection is respectfully traversed.

Applicants respectfully submit that claim 2 is allowable at least by virtue of its dependency on independent claim 1. The Office Action does not rely on MacKinnon to overcome the deficiencies in Cho with respect to independent claim 1. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

35 U.S.C. § 103 Rejection – Kotaki and Adams

Claims 5, 6, and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,200,841 to Kotaki et al. (hereafter "Kotaki") in view of U.S. Patent 7,023,487 to Adams (hereafter "Adams"). Insofar as it pertains to the presently pending claims, this rejection is respectfully traversed.

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Kotaki teaches a binarizing apparatus which can smooth edges in binarized images and can accurately binarize fine shading differences and light edges. (Col. 1, lines 42-56). Specifically, Kotaki teaches a binarizing circuit with an adaptive threshold (Fig. 1, item 11) where "the mean value of the data items of the surrounding pixels calculated by the mean value circuit is fed to a threshold circuit in order to determine a threshold for binarization." (Col. 10, lines 46-67).

Either the mean value or the threshold calculated in Kotaki may be viewed as a calculated feature value. Neither of these feature values, however, is binarized in Kotaki as required by independent claim 5, which requires, in part, "binarizing the feature values of the micro regions calculated by the feature value calculation step."

Kotaki uses the calculated feature values to binarize the pixel value of the pixel of interest, and does not perform any binarization on the calculated feature values themselves. Applicants respectfully submit that Kotaki is therefore deficient in its teaching with respect to independent claim 5.

Adams is relied upon in the Office Action to teach interpolation from source image pixels located along detected edge orientation. (Page 7 of Office Action). Adams makes no teaching or suggestion of binarization operations and therefore contains to teaching that could remedy the deficiencies of Kotaki with respect to independent claim 5.

With respect to claims 6 and 7, Applicants respectfully submit that these claims are allowable at least by virtue of their dependency on independent claim 5. Applicants therefore respectfully submit that neither Kotaki nor Adams, taken alone or in combination (assuming the references can be combined, which Applicants do not admit) teach or suggest "binarizing the feature values of the micro regions calculated by the feature value calculation step" as required by independent claim 5. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

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35 U.S.C. § 103 Rejection – Kotaki, Adams, and Cho

Independent claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kotaki in view of Adams and Cho. Applicants respectfully traverse this rejection.

Independent claim 8 requires, in part, "binarizing the feature values of the micro regions calculated by the feature value calculation step." Applicants respectfully submit that both Kotaki and Adams are deficient in their teachings with respect to this claim limitation for the same reasons as set forth with respect to independent claim 5. Applicants further submit that Cho makes no teaching or suggestion of binarization, and therefore does not remedy the deficiencies of Kotaki or Adams with respect to independent claim 8.

Applicants respectfully submit that none of Kotaki, Adams, or Cho, taken alone or in combination (assuming the references may be combined, which Applicants do not admit), teach or suggest "binarizing the feature values of the micro regions calculated by the feature value calculation step" as required by independent claim 8. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

New Claim

Applicants respectfully submit that new claim 9 is allowable at least by virtue of its dependence on independent claim 5.
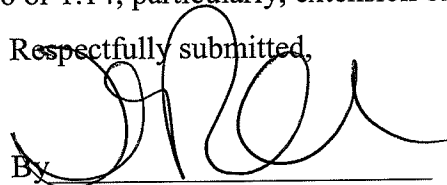
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Conclusion

In view of the above remarks, it is believed that claims are allowable.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact D. Richard Anderson, Reg. No. 40,439 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Respectfully submitted,

Dated: December 31, 2007

By

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